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Professional Report of

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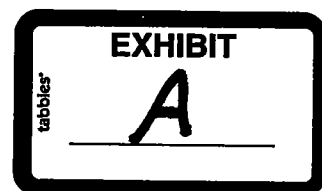
Re: CIVIL ACTION NO. 2:08cv240-B-S

TEXAS GAS TRANSMISSION, LLC  
v/  
BOARD OF LEVEE COMMISSIONERS FOR THE YAZOO MISSISSIPPI  
DELTA, et. al.

August 2, 2011

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## **Introduction**

Texas Gas Transmission, LLC, (TGT) installed a 36" pipeline in 2009 across a levee and property owned and operated by the Yazoo Mississippi Delta levee board (levee board), using their right of eminent domain. TGT and the levee board do not agree about the monetary compensation that should be paid for this situation. I have been retained by Jim Halford and James McCullough, attorneys with Brunini, Grantham, Grower & Hewes, PLLC, to provide my professional opinion concerning potential impacts from the existence of this 36" pipeline to the levee board property. I took the actions listed below, and reviewed the documents listed below, in developing my opinions concerning these issues. These opinions are based on my review of the available information and upon my experience as an engineer, pipeline manager, and private consultant as described more completely in this report and my CV. I used no novel methods or techniques in the development of my opinions. None of the methods used during my analysis of this event and the associated documentation were created specifically for this case or for any other litigation. I have considered the commonly accepted practices within the industry when forming my opinions.

I reserve the right to supplement or amend these opinions as appropriate as new information is obtained. These opinions are specific to the facts in this case, and are not necessarily applicable to other cases.

Headings in this report are included for ease of reference, and are not intended in any way to limit or modify the opinions expressed in this report.

## **Qualifications**

My statement of qualifications is attached to this report. I am active at the highest levels within the US transmission pipeline industry. I am a member of the INGAA Foundation that selects and funds research and outreach activities for the gas transmission pipeline industry. I am also the consultant to the liquid industry Pipeline Performance Excellence Team (PET), and coordinate their annual efforts related to pipeline damage prevention. I am on the executive committee for the Pipeline Systems Division for ASME (American Society of Mechanical Engineers) and am also on the executive committee for the Safety Engineering and Risk Analysis Division of ASME.

I participate in numerous pipeline industry meetings, workshops, and forums throughout the year where operating and construction practices are discussed and shared. As an Area Manager for Exxon Pipeline, I was responsible for the line locating personnel as well as the new projects group, and I personally approved the "crossing permits" for my area. I am intimately familiar with practices related to pipeline construction and risk management.





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## **Information Reviewed / Personnel Interviewed**

I have reviewed all documents that are cited in this report, as well as standard information in my professional library including the federal pipeline safety regulations and published pipeline incident data from the federal Office of Pipeline Safety. I conducted a site visit on July 22, 2011, where I also interviewed Mr. Donnie Henson, Area Business Leader. I have also had telephone conversations with Mr. Mike Smith, the engineering project manager for the subject pipeline installation, and Mr. Jeff McMains who had relevant information about in-line inspections for the subject pipeline.

## **Opinions**

The levee board's experts have implied that the risks posed by the subject pipeline greatly impair the use of this property, and require significant monetary compensation. The risk posed by a pipeline is a combination of the likelihood of various potential failures, and the potential consequences of those failures. I will examine each in turn, below.

### **Likelihood of Failure**

There are a number of types of threats to the integrity of a gas transmission pipeline which can cause failures. Industry standard ASME B31.8S Managing System Integrity of Gas Pipelines is incorporated by reference into the federal pipeline safety regulations for gas transmission pipelines. It identifies 9 categories of threats to pipeline integrity, organized into 3 groupings.

Time dependent threats:

1. External corrosion
2. Internal corrosion
3. Stress corrosion cracking

Stable threats:

4. Manufacturing related defects
5. Welding / fabrication related
6. Equipment

Time-independent

7. Third party / mechanical damage
8. Incorrect operational procedures
9. Weather-related and outside force

Of these 9 threat categories, the subject pipeline should easily outperform the average gas transmission pipeline in at least 8. It has had a modern external coating and effective cathodic protection from the time it was installed (category 1). It carries sales-quality gas that has already been dehydrated, and can be pigged to clean out any liquid residues (category 2). It is not in a service prone to stress corrosion cracking (category 3). Modern manufacturing and construction





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techniques, coupled with 100% radiographic testing and high-pressure hydrostatic testing AND post-construction in-line inspection have largely eliminated the threats identified in categories 4, 5, and 6. The very fact that the pipe has been installed on a remote property controlled by a levee board that is keenly aware of excavation damage virtually eliminates threats in category 7. Incorrect operations (category 8) are normally related to facilities and compressor stations, not mainline pipe. The only category where the subject pipe arguably might not be better than average would be in the last one: weather-related and outside force, due to the fact that the pipeline is installed in a river crossing. Even with proper design, pipelines installed in river crossings would be incrementally more likely to have an incident due to that cause than pipelines that are not installed in river crossings. However, in this case, exceptional measures were taken to provide additional cover and support / bedding of the pipeline over the levee, and professional civil engineers have signed off on the design. I am not a civil engineer, and am not attempting to provide an opinion in that area – but based on my experience as a pipeline engineer, operations manager, and consultant, I believe that the current design and installation are more than adequate to address this risk category, and I would not deem the pipeline in that area to be any more susceptible to weather-related and outside force damage than the average pipeline. In addition, it is very important to note that the great majority of significant pipeline incidents are due to the first 8 categories, not the 9<sup>th</sup> (and I'll note for the record that these threat categories are listed in the same order as they are listed in ASME B31.8S. I did not re-order them to de-emphasize the 9<sup>th</sup> and final category).

There are many types of pipeline failures and incidents that may be reported to OPS, ranging from relatively minor leaks to complete pipeline failures / ruptures. The crater scenario that the levee board is concerned about (potentially causing damage to the levee itself by blowing a hole in the levee) would only be caused by a pipeline rupture. A rupture of a pipeline is a specific type of failure, involving the catastrophic failure of the pipe wall, and is a very rare event. Ruptures of pipelines virtually always meet the reporting criteria (thus, they are contained in the OPS datasets), but all reports are made using the mandated government reporting forms and classification process. There is no reporting classification for "rupture", and there is no way to accurately extract "rupture" data from the publicly available databases. However, the Office of Pipeline Safety does track "serious incidents" for gas transmission pipelines<sup>1</sup>. I monitor pipeline safety newsgroup postings on a daily basis, where essentially all gas and liquid pipeline incidents of any significance are posted<sup>2</sup>. In my professional opinion, and based on my daily review of all types of pipeline incidents, it is obvious that there are fewer catastrophic pipeline ruptures than there are "serious incidents". Thus, the serious incident data can provide an upper limit of pipeline rupture data. Since 1999, the gas transmission pipeline industry has averaged fewer than 0.02 serious incidents per thousand miles of pipeline per year<sup>3</sup>. The pipeline length along the levee board property is 1,548 feet, or 0.293 miles, which translates into 0.000293 thousand miles. At a serious incident rate of 0.02 per thousand miles per year, the levee board property would have one serious incident every 170,000 years. This demonstrates that, even using

<sup>1</sup> <http://primis.phmsa.dot.gov/comm/reports/safety/PSI.html?nocache=165>

<sup>2</sup> <http://tech.groups.yahoo.com/group/safepipelines/>

<sup>3</sup> The graph for this statistic is included in the current draft of the Report to America on Pipeline Safety, which has not yet been published by the Department of Transportation. The same statistic can be gleaned from the information sources listed above.





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national pipeline incident statistics, a rupture on the levee board property would be an incredibly rare event, and for practical purposes can be assumed to never happen.

However, the analysis above is based on national average data, and the pipeline installed on the levee board is demonstrably better than the national average – leading to an even lower rupture potential. The average gas transmission pipeline in the US is about 50 years old. While the age of the pipeline itself is not an issue, the age is directly related to the manufacturing and construction methods in use at the time. In fact, one of the most likely causes of pipeline ruptures is due to Electric Resistance Welded (ERW) pipe manufactured prior to 1970. The federal pipeline safety regulations recognize this, and contain special provisions for pre-1970 ERW pipe. Obviously, the subject pipeline was not manufactured from pre-1970 ERW pipe.

The subject pipeline is also capable of being inspected by in-line inspection tools (ILI), and has already been inspected twice – by a geometry tool and by a magnetic-flux leakage (MFL) tool, all in August, 2009. These types of inspections can detect flaws that might lead to pipeline rupture, well before it occurs. Neither of these inspections detected actionable flaws on the levee board property.

The subject pipeline is also over-designed, and has a wall thickness of 0.75” on the levee board property, as opposed to 0.402” elsewhere. The pipe at the levee is 86% thicker than required, with a commensurate increase in wall strength. This makes that particular section of pipe even less likely to rupture than average.

Even these statistics do not adequately depict how unlikely it would be for a pipeline rupture to cause a levee failure in this area. On the date of my site inspection (July 22, 2011), there was no water even touching the base of the levee, much less the crest.

While the existing 12” pipelines are not directly at issue, I will note that they have both been hydro-tested to 100% of their Specified Minimum Yield Strength (SMYS). Testing at this pressure level exceeds the regulatory requirements, and is very effective at detecting latent flaws or defects. There were no failures during these tests, indicating that these pipelines are robust and are not susceptible to failure during overpressure and high-stress events.

For these reasons, I believe the subject pipeline is much less likely than the “average” gas transmission pipeline to suffer an incident of any type... much less a significant incident. With standard pipeline maintenance and operational practices as contained in the federal pipeline safety regulations and normal industry practices as followed by TGT, the probability that there will be an incident of any type on the levee board property is very, very low – almost to the point of being insignificant.





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## Consequences of Failure

The levee board is very concerned about the potential for a catastrophic pipeline rupture to create a “crater” in the levee, leading to levee failure. The odds of such a thing happening are very, very low, as mentioned above. Even if it did occur, the levee board’s own expert has submitted calculations demonstrating that the depth of a potential crater from a catastrophic failure of the subject pipeline would still be less than the additional bedding materials that were added by TGT underneath the pipeline and the original top of the levee. Thus, even a complete pipeline rupture should have adequate bedding materials between the pipeline and the levee to eliminate the threat entirely. While the model may not be perfect, it is a reasonable method to evaluate the adequacy of this pipeline design for this type of situation. This threat has been more than adequately addressed, in my opinion.

The levee board also seeks compensation for impairment of a “burn area” or “potential hazard zone”, calculated by the equation  $R=0.69*d*\text{SQRT}(P)$ , also known in the industry as the C-FER circle. This equation is incorporated into the federal pipeline integrity management regulations for gas transmission pipelines, in order to identify High Consequence Areas. The levee board’s experts incorrectly use this equation to define a “potential hazard zone”. It was never intended for such a purpose, and has intentionally NOT been used for that purpose by OPS.

OPS and various stakeholders established an organization known as the Pipelines and Informed Planning Alliance (PIPA) to develop recommended practices to address land use planning and development near transmission pipelines<sup>4</sup>. The PIPA final report, Partnering to Further Enhance Pipeline Safety in Communities through Risk-Informed Land Use Planning, offers nearly 50 recommended practices for local communities, developers and transmission pipeline operators to use to help reduce the safety risks that result from development near pipeline rights-of-way. The recommendations offer guidance on how land use planning and development decisions can help protect existing pipeline infrastructure and growing communities. The report also provides recommendations on how local government officials can gather information about transmission pipelines; how local planners, developers and pipeline operators should communicate during all phases of new development to understand pipeline risks; and how to minimize pipeline excavation damages during site preparation and construction. The report was completed and made accessible on PHMSA’s Stakeholder Communications website in November 2010.

I personally served on the PIPA committee. There is no recommendation or implication that C-FER circle areas should be fenced off or otherwise removed from service. I see no reason that normal development activities of all types cannot or should not be permitted in the areas adjacent to the pipeline, subject to normal constraints for the pipeline easement itself.

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<sup>4</sup> <http://primis.phmsa.dot.gov/comm/pipa/LandUsePlanning.htm?nocache=6278>





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## **Documents Reviewed**

I reviewed the following documents and misc. associated transmittal e-mails in the process of forming my opinions in this case:

1. Proposed 36" Profile and Sections – Drawing No. PL-14180 Sheet 1 of 2 Rev. 1; 3; and 4; as well as simple profile diagram Pipeline Profile PL-14180 of 10-30-2008
2. Proposed 36" Profile and Sections – Drawing No. PL-14180 Sheet 2 of 2 Rev 3 and 4
3. Geotechnical Evaluation Report – (File No. 16709-002-00 July 29, 2008)
4. Soil Stability Diagram - Mississippi River East Levee Sheet 1– 10/22/2008 and 10/30/2008
5. Helena 12" Line – Mile 0 to Mile 7.23 – (Existing Facility) – Hydrostatic Test Reports (Clarksdale) pages 88-93
6. Spreadsheet with Blow Down and Rupture Estimates for the Mississippi River Levee Board  
Levee Board Summary.xls
7. 36" Greenville Lateral and 12" Helena River Crossing Crater Depth Calculations:  
Helena 12" River Crossing.doc and Crater Calculation rev1.doc
8. 'Typical utility pipeline xing Rev1.0 9-27-07.bmp – Yazoo–MS Delta Levee Board by WMS
9. YMDLB requirements for issuance of utility permit for Texas Gas – e-mail dated 9/9/2008
10. Defendant's Designation of Expert Witnesses
11. Report from Douglas B. Chisholm Associates, Inc. dated 4/14/2011
12. Report from Robert L. Crook dated May 3, 2011
13. Plaintiff's Supplemental Designation of Experts
14. Market Value Appraisal Restricted Use Report by Lucy Speakes Capocaccia dated 2/28/2011
15. Technical report of David P. Sauls dated 2/28/2011





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**W.R. (Bill) Byrd, P.E.  
President**

**Executive Summary**

A Summa Cum Laude graduate of the Georgia Institute of Technology, Mr. Byrd enjoys a solid reputation for working with the public, corporate executives, legal representatives, and regulatory agencies to resolve complex regulatory, integrity management, safety, and compliance management issues. He is a professional engineer and regulatory expert, combining exceptional analytical and communication skills with a broad background in engineering, operations, management, economics, and regulatory affairs, yielding excellent professional judgment and problem-solving capabilities that can be applied to corporate-level issues. He is a widely respected public speaker, and is routinely called upon to make presentations to industry associations and other groups at the national level.

**Accomplishments/Experience**

Mr. Byrd's accomplishments and experience include:

- Serving on the executive committee of the Safety Engineering and Risk Analysis Division (SERAD) of ASME (American Society of Mechanical Engineers), an engineering society that is recognized worldwide and whose standards are incorporated into regulations by countless federal, state, and local jurisdictions.
- Serving on the executive committee of the Pipeline Systems Division (PSD) of ASME.
- Chairing the Safety Engineering, Risk Assessment, and Reliability Methods track at the International Mechanical Engineering Congress and Exhibition (IMECE), attended by thousands of engineering and risk management professionals from around the world.
- Founding and directing the growth of RCP Inc, a professional engineering and regulatory consulting firm serving more than 100 energy firms in the US and overseas.
- Serving as the consulting expert to the API / AOPL Pipeline Performance Excellence Team, a permanent team composed of pipeline executives dedicated to improving the safety of the liquid transmission pipeline industry.
- Serving on the INGAA Foundation with other pipeline company and contractor executives to identify, prioritize, and fund research projects for the gas transmission industry.
- Serving as a consulting expert during the first criminal prosecution under the Pipeline Safety Act.
- Serving as an expert witness during the first class action lawsuit brought against a pipeline company under the citizen suit provisions of the Pipeline Safety Act.
- Serving as an expert witness / consulting expert on several other pipeline accidents and lawsuits, including those of national significance.
- Chairing the Offshore Corrosion Surveillance Subcommittee for a major pipeline company.





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- Facilitating the development and implementation of a corrosion control strategy for oil and gas operations on the North Slope of Alaska, during several congressional investigations.
- Developing solutions for H<sub>2</sub>S contingency planning in large sour oil and gas production areas, produced water toxicity issues on the Outer Continental Shelf, NORM sampling and testing procedures for oil field wastes, and asbestos exposure issues.

#### **Associations/Affiliations**

- American Gas Association
- American Petroleum Institute
- American Society of Mechanical Engineers
  - Member of the Executive Committee of the Safety Engineering and Risk Analysis Division (SERAD)
  - Member of the Executive Committee of the Pipeline Systems Division (PSD)
  - Chair of the Safety Engineering, Risk Analysis and Reliability Methods track at the 2010 ASME International Mechanical Engineering Congress & Exposition
- American Society of Safety Engineers
- The Auditing Roundtable
- Houston Pipeliners Association
- Interstate Natural Gas Association of America Foundation
- National Association of Corrosion Engineers
- Offshore Operators Committee
- Southern Gas Association
- Texas Gas Association

#### **Education**

M.S., Mechanical Engineering – Honors, Georgia Institute of Technology, 1982

B.S., Mechanical Engineering – Summa Cum Laude, Georgia Institute of Technology, 1981

#### **Professional Registrations**

- Professional Engineer, State of Texas
- Professional Engineer, State of Louisiana
- Professional Engineer, State of Mississippi
- Professional Engineer, State of Alabama
- Professional Member - American Society of Safety Engineers
- Professional Member – National Association of Corrosion Engineers

#### **Honors and Awards**

- Graduate Fellowship - Georgia Power Research Laboratory
- Pi Tau Sigma
- Tau Beta Pi
- Gamma Beta Phi
- Phi Kappa Phi
- Certificate of Appreciation - U. S. Coast Guard





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**Publications/Presentations**  
(excluding in-house training sessions)

W. R. Byrd; SPCC and OPA-90 Requirements for Liquid Pipelines; Presented at the TGA / PHMSA Liquid Pipeline Workshop, Corpus Christi, TX June 17, 2010.

W. R. Byrd; EPA Issues New Spill Prevention Regulations, American Gas Magazine, p.14, May 2010.

W. R. Byrd; Control Room Management for DOT Pipeline Operators; Presented at the MASH Conference, San Antonio, TX; April 28, 2010.

W. R. Byrd; Oil Spill Prevention Control and Countermeasure (SPCC) Requirements for Gas Pipeline Operators; webinar sponsored by the American Gas Association; March 9, 2010; also presented to the Southern Gas Association; Kansas City, KS; June 10, 2010; also presented to the Texas Gas Association; Corpus Christi, TX; June 15, 2010; also presented at the US DOT / PHMSA regulations workshop; Corpus Christi, TX; June 17, 2010.

W. R. Byrd; Avoiding Pitfalls Using GPS Data for Damage Prevention; Presented at the CGA Excavation Safety Conference & Expo; San Diego, CA March 4, 2010.

W. R. Byrd; SPCC Rule Revisions Affect Gas Processing Facilities, Gas Processors Report, Vol. 28 Issue 8, p.1, February 25, 2010.

W. R. Byrd; DOT Existing Regulations for Leak Detection; Presented at the Siemens Technology Conference, Houston, TX, February 23, 2010.

W. R. Byrd; The New SPCC Rule: Are You In or Out?, The TIPRO Target, Vol. 13. No. 04, p.6, February 19, 2010.

W. R. Byrd; New Control Room Management Regulations Require Structured Management Approach; Pipeline & Gas Journal, February, 2010.

W. R. Byrd; Offshore Pipeline Construction and Operation; Presented to the Select Policy Council on Strategic & Economic Planning of the Florida House of Representatives, Tallahassee, FL, February 4, 2010.

W. R. Byrd; API, AOPL Working to Standardize GPS System; Oil & Gas Journal, November 9, 2009.

W. R. Byrd; Methods for Complying with Pipeline Leak Detection and Monitoring Regulations; Presented at the Pipeline Leak Detection & Monitoring Conference, Houston, Texas, October 28, 2009.





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**Publications/Presentations (continued)**

W. R. Byrd; Pipeline Integrity Management Rules Affecting Gathering, Transmission, and Distribution Pipelines; GITA Oil & Gas Conference, End to End: Risk and Integrity Management seminar, Houston, TX, September 14, 2009.

W. R. Byrd; New and Proposed Pipeline Regulations 2-2009; Presented at the OQSG User Conference, Houston, Texas, February 26, 2009.

W. R. Byrd, Ken Palmer, Jack Garrett; One-call System Addresses Offshore Damage Prevention; Oil & Gas Journal, May 4, 2009.

W. R. Byrd, Best Practices in Damage Prevention for Parallel Construction Projects; Presented at the API Pipeline Conference, Fort Worth, Texas, April 21, 2009.

W. R. Byrd, Ken Palmer; Company Name Change Requires Diligent Execution; Oil & Gas Journal, March 16, 2009.

W. R. Byrd; Overview of Shale-Gas Pipeline Development Activities; Presented at the Barnett Shale Expo, Fort Worth, Texas, March 11, 2009.

W. R. Byrd; Overview of Shale-Gas Pipeline Development Activities; Presented at the Haynesville Shale Expo, Shreveport, Louisiana, November 21, 2008.

W. R. Byrd; Best Practices in Damage Prevention for Parallel Construction Projects; Presented at the 7<sup>th</sup> International Pipeline Conference, Calgary, Alberta, Canada, October 1, 2008.

W. R. Byrd; Risk Factors for Urban Shale Gas Pipeline Development; Presentation to Mayor's Shale Gas Development Task Force, Fort Worth, Texas, August 7, 2008.

W. R. Byrd; Damage Prevention Workshop Findings and Recommendations; Presented at the API Pipeline Conference, Orlando, FL, April 8, 2008.

W. R. Byrd; Management Systems and Safety Culture Survey Findings and Recommendations; Presented at the Liquid Pipeline Leadership meeting, Squaw Valley, CA, June 25, 2007.

W. R. Byrd; Risk Management and Integrity Regulations for Gas and Liquid Pipelines; GITA Oil & Gas Conference, Houston, TX, September 18, 2006.

W. R. Byrd; Overview of the new Gas Gathering Regulations; Presented at the DOT Pipeline Compliance Workshop, Houston, TX, May 10, 2006.

W. R. Byrd; Introduction to DOT Pipeline Regulations; Presented at the DOT Pipeline Compliance Workshop, Houston, TX, February 22, 2006.





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**Publications/Presentations (continued)**

W. R. Byrd; Regulatory Developments for Pipeline Integrity Management; Presentation at the Geospatial Information Technology Association's 14th Annual GIS for Oil & Gas Conference, JW Marriott Hotel • Houston, Texas; September 19, 2005.

W. R. Byrd; Introduction to DOT Pipeline Regulations; Texas State Pipeline Regulations; Louisiana State Pipeline Regulations; Presented at the DOT Pipeline Compliance Workshop, Houston, TX, February 22 – 24, 2005.

W. R. Byrd, R. G. McCoy, D. Wint; A Success Guide for Pipeline Integrity Management; Pipeline Gas & Journal, November 2004.

W. R. Byrd, Bill Swanstrom; Midstream M&A Transactions: What you don't know about regulatory due-diligence CAN hurt you!, Locke, Liddell, and Sapp LLP presentation for CLE credits, September 23, 2004.

W. R. Byrd; Associated Regulatory Compliance Issues for Integrity Management; Presented at the DOT Pipeline Compliance Workshop, Houston, TX, September 22, 2004.

W. R. Byrd; Introduction to DOT Pipeline Regulations; Presented at the DOT Pipeline Compliance Workshop, Houston, TX, April 6, 2004.

W. R. Byrd, Current Regulatory Challenges for DOT Pipeline Operators; 9th annual River City Safety, Health, Security, and Environmental Conference and Exposition, Baton Rouge, LA. August 20, 2003.

W. R. Byrd; Introduction to DOT Pipeline Regulations; Presented at the DOT Pipeline Compliance Workshop, Houston, TX, July 30-31, 2003.

W. R. Byrd; Learnings from the Olympic Pipeline Incident; in-house training for Portland Pipeline, Portland, ME, April 2, 2003.

W. R. Byrd; DOT Pipeline Regulatory Developments; Presented at the US Oil and Gas Association Conference, Jackson, MS, October 30, 2002.

W. R. Byrd; DOT Pipeline Training Regulations; Presented at the API Training and Development Conference, Galveston, TX, October 25, 2002.

W. R. Byrd; Introduction to DOT Pipeline Regulations; Presented at the DOT Pipeline Compliance Workshop, March 21-22, 2002.

W. R. Byrd; State Pipeline Regulatory Initiatives; Presented at the US Oil and Gas Association annual meeting, Jackson, MS; October 10, 2001.





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**Publications/Presentations (continued)**

W. R. Byrd; State Pipeline Regulatory Initiatives; Presented at the Southwest Gas Association annual meeting, Phoenix, AZ; August 29, 2001.

W. R. Byrd; OPA 90 Planning Requirements for US Coast Guard Regulated Facilities; Presented at the US Coast Guard compliance workshop; New Orleans, LA, August 16, 2001.

W. R. Byrd; Operator Qualification Program Requirements / Overview; Presented at the Greater Baton Rouge Industrial Managers Association, March 28, 2001; and the Lake Area Industry Alliance, May 8, 2001.

W. R. Byrd; Pipeline Integrity Management Program Development / Risk Analysis; Presented at the Pipeline Integrity Management Workshop, March 6-8, 2001.

W. R. Byrd; Operator Qualification - Program Management Issues; Presented at the DOT Pipeline Operator Qualification Workshop, November 14-15, 2000.

W. R. Byrd; U.S. Regulatory Scheme for Pipeline Safety; Presented to members of the Russian Duma during a state visit, June 22, 2000.

W. R. Byrd; Operator Qualification Issues and Industry Resources; Presented at the DOT Pipeline Compliance Workshop, May 18, 2000.

W. R. Byrd; New and Proposed Rule Changes for DOT Pipelines; Presented at the DOT Pipeline Compliance Workshop, May 17, 2000.

W. R. Byrd; Introduction to DOT Pipeline Regulations; Presented at the DOT Pipeline Compliance Workshop, May 16, 2000.

W. R. Byrd; Electronic Contingency Plan Team Status, Findings, and Path Forward; Presented at the EPA / USCG Region VI Response Team meeting, January 19, 2000.

W. R. Byrd; Pipeline Legal / Regulatory Requirements for Community Relations; Presented at the 1999 API Pipeline Conference, April 21, 1999.

W. R. Byrd, S. H. Kasper; Proposed USCG Hazmat Spill Planning Rule; Presented at the ILTA Southern Region Spring Meeting, April 27, 1999.

W. R. Byrd; DOT Inspections - Current Expectations; Presented at the DOT Pipeline Compliance Workshops, September, 1998.

W. R. Byrd; Plan Integration Subcommittee: Objectives and Plans; Presented at the New Orleans Area Committee Meeting, July 30, 1998.





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### **Publications/Presentations (continued)**

W. R. Byrd; Relief Settings and Maintenance Activities; Presented at the Coast Guard Compliance Workshops, May, 1998.

W.R. Byrd; ... And Now a Word from Washington; Presented at the Louisiana Pipeliners Association Meeting, September 9, 1997.

W.R. Byrd, R.A. Brunell; "Person In Charge" Training: Current Compliance Issues; presented at the Independent Liquid Terminals Association Conference, June 10, 1997.

W.R. Byrd, Compliance Guidance for U.S. Department of Transportation Pipeline Regulations; CMA No. 601001F, Chemical Manufacturers Association.

W.R. Byrd, Training Module for U.S. Department of Transportation Pipeline Regulations; CMA No. 601002F, Chemical Manufacturers Association.

W.R. Byrd, Natural Resource Damage Assessments: Texas Overview, Louisiana Outlook; presented at SPE Environmental Issues Forum, February 17, 1997.

W.R. Byrd, Natural Resource Damage Assessments: Texas Overview, Louisiana Outlook; presented at ELIRT Regional Training Workshop, November 20-21, 1996.

Stacey E. Hall, W.R. Byrd, Shobhina Singh; National Response Team's 'One Plan' Guidance: A Preferable Alternative?; November 1996.

W.R. Byrd, R.A. Brunell; New Developments in USCG Regulations for Dock Facilities; presented at RCP's U.S. Coast Guard Regulatory Seminar, August 8, 1996.

W.R. Byrd, T.C. Shelton; DOT Pipelines: Preparing for the Post-Accident Investigation; January 9, 1997.

W.R. Byrd, Pipeline Risk Management Programs; June 20-21, 1996.

W.R. Byrd, R.B. Felder; How OPS Regulations Affect the Chemical Industry; presented at Chemical Manufacturers Association Pipeline Compliance Forum, October 24, 1996.

W.R. Byrd, D. Frey, W. Bertges; DOT Pipeline Spill Planning Requirements, presented at Regulated Pipeline Compliance Seminar, February 29, 1996.

W.R. Byrd, W.H. Wheeler; Emergency Planning for H<sub>2</sub>S Releases: Utilizing Shelter in Place and Interagency Drills, SPE # 25979, presented at SPE/EPA Exploration & Production Environmental Conference, 1993.





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**Publications/Presentations (continued)**

W.R. Byrd, B.C. South, P.E. Herries; Shelter in Place: The Technical Basis for Its Use in Emergency Planning, SPE # 25980, presented at SPE/EPA Exploration & Production Environmental Conference, 1993.



## WRB Depositions, Testimony, and Reports

Status as of 7/20/2011

<b>JOB</b>	<b>Date</b>	<b>Attorneys</b>	<b>Comments</b>
1800 Campeon PL – H2S Planning	1997 – 1998	Flip Whitworth Scott, Douglass & McComico 600 Congress Ave, Suite 1500 Austin, TX 78701	Report and depo; a TRRC action, not really a lawsuit
6112 Occidental Permian Expert Witness Work – Gary Womack	9/2001 – 8/2002	William J. Wade Crenshaw, Dupree & Milam, LLP PO Box 1499 Lubbock, TX 79408	Report and depo
1611 City of Martinez v. Texaco et al.	April 2002	Stephan C. Volker 436 14th Street, Suite 1300 Oakland, California 94612	Report, depo
3441 GulfSouth Pipeline Expert Witness – Wyble case	2003 – 1Q 2004	Sam F. Baxter McKool Smith 300 Crescent Ct, Sue 1500 Dallas, TX 75201	Reports, depositions
3481 Hess - Corpus Refy Benzene Pipeline Test – Elementis Chromium Lawsuit Support	2H 2003	George Wilkinson Vinson & Elkins 1001 Fanning, Suite 2300 Houston, TX 77002-6760	Report, depo
3533 Koch Irvin Tx excavation damage case – Pyburn Lawsuit Support	2003 - 2004	Bill Dawson Vinson & Elkins 2001 Ross Ave Dallas, TX 75201-2975	Report, depo
3560 LoneStar PL - Hamilton Case	2005 – 7/2006	Mark Daniel Cantey & Hanger LLP 801 Cherry Street, Unit #2 Fort Worth, TX 76102-6881	Report
3445 GSPL - River Realty canal lawsuit	5/2006 – 10/2006	Robert J. Young III Young, Richard & Myers, LLC Suite 1830 - Two Lakeway Ctr 3850 North Causeway Blvd Metairie, LA 70002	Report, depo cancelled at last minute when case settled
3547 KM REX – Owens Parallel Construction	9/2008 – 11/2009	Phillip Shap Bracewell and Giuliani 711 Louisiana St. Houston, TX	Report



5308 Williams – Oubre termination	5/2010 – 6/2010	Kean Miller Hawthorne D'Armond McCowan & Jarman, LLP Melanie Hartmann PO Box 3513 Baton Rouge, LA 70821-3513	Report
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**Testimony date: 2002**

Cause #: C 00-4716 (CW)

US District Court, Northern District of California, Oakland Division

Style of Case: *City of Martinez, a municipal corporation, vs. Texaco Trading and Transportation, Inc.***Testimony date: 2002**

Cause #: 00-08-3660

286th District Court, Cochran County, TX

Style of Case: *Gary Womack vs. Occidental Permian Ltd., et al.***Testimony date: 2003**

Cause #: H-01-0233

United States District Court for the Southern District of Texas, Houston Division

Style of Case: *Elementis Chromium, L.P., et al, v. Coastal States Petroleum Company, et al, v. Amerada Hess Corporation, et al;***Testimony date: 2003 and 2004**

Civil Action No. 9:02CV200

U.S. District Court, Eastern District of Texas, Tyler Division

Style of Case: *Joseph Myble, et al. vs. Gulf South Pipeline Company, L.P., and GGS Pipeline Company, L.L.C.;***Testimony date: 2004**

Cause # 236-196081-02

236th District Court Tarrant County, Texas

Style of Case: *Weda Elizabeth Pyburn, et al, v. Koch Pipeline Company, L.P., et al*